ZTP01P15154

FRUIT JUICER WITH INCREASED JUICE YIELD

Cross-Reference to Related Application:

This application is a continuation, under 35 U.S.C. § 120, of copending international application No. PCT/EP02/09401, filed August 22, 2002, which designated the United States; this application also claims the priority, under 35 U.S.C. § 119, of German patent application No. 101 42 246, filed August 29, 2001; the prior applications are herewith incorporated by reference in their entirety.

Background of the Invention:

Field of the Invention:

The present invention relates to a juicer or fruit press that comprises a rotating, upwardly tapering, centrally disposed, projecting element for the pressing of a fruit, and with a collection bin annularly surrounding the element and connected solidly to the latter, with openings for the fruit juice to pass through.

German Gebrauchsmuster DE 1 982 544 U1 describes a citrus press, which has a mechanical pressing device arranged downstream of a pressing cone for the fruit pulp loosened from the fruit peel by the pressing cone. The pressing device has a

feed screw, disposed underneath the pressing cone on its drive shaft and surrounded by the sieve sleeve of a sieve enclosing the pressing cone.

European patent EP 0 362 058 B1 also discloses a fruit press, or fruit juicer. That juicer has an electric drive motor. The motor is mounted inside the housing. It drives a drive-side shaft, on which the fruit press is mounted, via a drive belt and belt pulley.

It is a common problem associated with the prior art that a certain amount of usable juice is not pressed from the fruit and that the juice yield is not maximized.

Summary of the Invention:

It is accordingly an object of the invention to provide a fruit juicer, which overcomes the above-mentioned disadvantages of the heretofore-known devices and methods of this general type and which is further improved such that the juice yield is increased.

With the foregoing and other objects in view there is provided, in accordance with the invention, a fruit juicer, comprising:

a centrally and rotatably disposed, upwardly tapering, projecting element for pressing fruit;

a collection bin annularly surrounding said element and rigidly connected to said element for rotating with said element in a direction of rotation, said collection bin having an annular surface and openings formed therein for fruit juice to pass through; and

at least one blade disposed to squeeze fruit juice out of fruit pulp in said collection bin, said at least one blade being inclined downwardly in the direction of rotation, for compressing the fruit pulp between said blade and said annular surface.

In other words, the objects of the invention are achieved with a juicer of the type initially mentioned by providing a fixed device for pressing out the fruit juice projecting down into the collection bin.

The fruit juice yield is increased by the added squeezing device that presses out the fruit juice. The device remains fixed in place, while the collection bin rotates. By compressing the fruit pulp squeezed by the pressing cone out of the fruit it is possible to prolong the use time of the

fruit press, for example to double it, without having to clean it.

In a preferred embodiment the fruit press is wherein the means has at least one downwards inclined blade, by means of which the fruit juice can be squeezed out of the fruit flesh present in the collection bin by rotating it.

In a preferred variant the means comprises an annular body surrounding the collection bin.

The annular body is preferably constructed such that it has a first wall, overlapping an outer wall of the collection bin inwards and projecting down into the collection bin, on which at least one blade is attached. In this way, a simply constructed vessel is created, which surrounds the fruit press. The wall likewise contributes to the fact that no fruit flesh accumulates and sets in the slot projecting into a mantle wall of the collection bin at the outlet for the fruit juice.

In a further development of the invention the annular body has an outwards directed collar, with which it bears on a collector dish. An easy-to-handle assembly for a fruit press and a dish arranged under it are created by this particular construction.

In another preferred embodiment of the invention the annular body has a second wall, projecting down between the outer wall of the collection bin and a mantle wall of the collector dish.

Other features which are considered as characteristic for the invention are set forth in the appended claims.

Although the invention is illustrated and described herein as embodied in a fruit juicer, it is nevertheless not intended to be limited to the details shown, since various modifications and structural changes may be made therein without departing from the spirit of the invention and within the scope and range of equivalents of the claims.

The construction and method of operation of the invention, however, together with additional objects and advantages thereof will be best understood from the following description of specific embodiments when read in connection with the accompanying drawings.

Brief Description of the Drawings:

Fig. 1 is a perspective sectional view of a fruit juicer; and

Fig. 2 is a perspective sectional view of an annular body surrounding the fruit press.

Description of the Preferred Embodiments:

Referring now to the figures of the drawing in detail and first, particularly, to Fig. 1 thereof, there is shown a fruit juicer or fruit press 1 with a central pressing element 2. The element 2, substantially has an enveloping shape of a rotation parabola, a hemisphere, a semi-ellipsoid or a cone, and it is enclosed at its base by an annular surface 3. Fruit juice collects in the annular surface 3. Fruit juice is produced by pressing fruit over the element 2. The ring surface 3 is part of a collection bin 4. The fruit juice drips out of this through rib-like slots 5 into a collector dish 6, in which the fruit juice is trapped.

The element 2 is designed substantially as a hollow body, in which a hollow shaft 7 to receive a non-illustrated trunnion is arranged centrally for rotatingly driving the fruit press 1, that is, the element 2 and the collection bin 4 surrounding it, which is connected to a drive shaft of a drive motor.

The collection bin 4 has a circular outer wall 8, over which a wall 9 of a fixed annular body 10 projects down. Two blades or wings 11 are disposed on the inside of the wall 9. The two blades 11, which are disposed diagonally across one another on the wall 9, are inclined downwards in the direction of rotation of the collection bin, such that fruit pulp, which

has been loosened from the fruit to be pressed during the pressing procedure, is compressed more and more in the region between the blades 11 and the annular surface 3. The result is that even more fruit juice is pressed or squeezed out of the fruit pulp or fruit flesh. An added effect of the blades 11 is that the fruit pulp is compressed, such that it does not suck up the fruit juice flowing past in the pressing procedure, and that the fruit press 1 does not have to be removed from the collector dish 6 so often for cleaning.

Referring now to Fig. 2, the annular body 10 also has an outwardly projecting collar 12, with which it bears on the collector dish 6, and a ridge wall 13, which projects down between the outer wall 8 of the collection bin 4 and a outer wall 14 of the collector dish 6.

The invention thus provides for a fruit press 1 with a rotating, upwardly tapering, centrally disposed, projecting element 2 for pressing a fruit. The element 2 is enclosed by a collector dish 6, into which a wall 9 of a fixed annular body 10 protrudes. On the wall 9 is a means for squeezing the fruit pulp, which presses the fruit pulp downwards by rotating the fruit press 1 by a motor drive in the direction of an arrow P. The means according to the above-described preferred embodiment, is in the form of a blade 11 or a multiplicity of blades 11, attached to the inner side of the wall 9.